Claims

1.   A wireless subscriber terminal comprising a diversity antenna arrangement and a receive path including signal assessment means, a
5   combiner switches and control means; wherein, in operation, receive signals are switched in and out of the received path to provide a test combination of received diversity signals for a finite period on a fast switching basis; wherein, subsequent to an initial selection of receive diversity signals, improvement for a test combination of receive diversity signals is determined by incremental
10   signal quality; wherein, upon determination of an incremental signal quality for said test combination of receive diversity signals are switched into the receive path and under the control of the control means.

15   2.   A wireless subscriber unit receiver according to claim 1 wherein further receive signals are selected only when such signals contribute to the carrier to noise ratio.

3.   A wireless receiver according to claim 1 wherein the antennas of the
20   subscriber station are separated by distance, whereby spatial diversity is employed to differentiate signals.

4.   A wireless receiver according to claim 1 wherein the antennas of the subscriber station have a different polarisation, whereby polarisation diversity
25   is employed to differentiate signals.

5.   A wireless receiver according to claim 1 wherein the antennas of the subscriber station incorporates both spatial and polarisation diversity.

30   6.   A wireless receiver according to claim 1, wherein Hysteresis is employed to prevent rapid switching.

7.   A wireless receiver according to claim 1, wherein a rake receiver is employed to combine signals which are spatially separated.
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8.   A wireless receiver according to claim 1, wherein there are N diverse receive paths where (N > 2) and wherein there are n receive paths (where n =

N-1) each having delay means operable to delay the n signals with respect to each other by a period τ, corresponding to the chip rate.

9. A wireless receiver according to claim 1 wherein there are two diverse receive paths and one receive path is provided with a delay means operable to delay signals in the receive path by a period τ, corresponding to the chip rate and wherein MLSE demodulation techniques are employed.

10. A wireless receiver according to claim 1 wherein a rake receiver is employed to combine signals which are spatially separated, and wherein, the multi-path metric can be set so that only one antenna is employed.

11. A method of operating a wireless subscriber terminal comprising a diversity antenna arrangement and a receive path including signal assessment means, a combiner, switches and control means; wherein diverse signals received from the antenna arrangement are switched in and out of the receive path to provide a test combination of receive diversity signals for a finite period on a fast switching basis; wherein, upon determination of an increment signal quality for said test combination of receive diversity signals, relative to a previous signal quality, said test combination receive diversity signals are switched into the receive path under the control of the control means; wherein, upon determination of no variance in signal quality relative to a previous signal quality, then the prior combination of receive diversity signals is maintained.

12. A method according to claim 11 wherein further receive signals are selected only when such signals contribute to the carrier to noise ratio.

13. A method according to claim 11 wherein the antennas of the subscriber station are separated by distance, whereby spatial diversity is employed to differentiate signals.

14. A method according to claim 11 wherein the antennas of the subscriber station have a different polarisation, whereby polarisation diversity is employed to differentiate signals.

15. A method according to claim 11 wherein the antennas of the subscriber station incorporates both spatial and polarisation diversity.

16. A method according to claim 11, wherein Hysteresis is employed to prevent rapid switching.

17. A method according to claim 11, wherein a rake receiver is employed to combine signals which are spatially separated.

18. A method according to claim 11, wherein there are N diverse receive paths where (N > 2) and wherein N receive paths (where N=1) each having delay means operable to delay the N signals with respect to each other by a period τ, corresponding to the chip rate.

19. A method according to claim 11, wherein the are two diverse receive paths and one receive path is provided with a delay means operable to delay signals in the receive path by a period τ, corresponding to the chip rate and wherein MLSE demodulation techniques are employed.

20. A method according to claim 11, wherein a rake receiver is employed to combine signals which are spatially separated, and wherein, the multi-path metric can be set so that only one antenna is employed.

21. A fixed wireless access subscriber arrangement including a receiver as described in claim 1.

22. A method according to claim 11 wherein the wireless subscriber terminal is a fixed wireless subscriber terminal.